



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0149; Directorate Identifier 2011-NM-255-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777-200 and -300 series airplanes. This proposed AD was prompted by reports of fatigue cracks in the lap joints, which initiated at scribe lines that were made during production when maskant was removed from the affected skin panels. This proposed AD would require repetitive external phased-array ultrasonic inspections to detect cracks of the affected fuselage skin lap splices in Sections 41, 43, and 44, as applicable, and repair if necessary. We are proposing this AD to detect and correct such fatigue cracking, which, if not detected and corrected, could grow large and cause sudden decompression and the inability to sustain limit flight and pressure loads.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** James Sutherland, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6533; fax: 425-917-6590; e-mail: [James.Sutherland@faa.gov](mailto:James.Sutherland@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0149; Directorate Identifier 2011-NM-255-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

### **Discussion**

We received a report indicating that, on the affected airplanes, scribe lines may have been inadvertently made in the overlapped skin in lap joints if a sharp tool was used to remove the maskant from the aluminum skin panels during assembly of the affected lap joints. During fatigue testing of Model 777 airplanes, lap joint cracks were found, and analysis indicated that those cracks initiated at scribe lines that were made during production when maskant was removed from the affected skin panels. Such fatigue cracking, if not detected and corrected, could grow large and cause sudden decompression and the inability to sustain limit flight and pressure loads.

### **Relevant Service Information**

We reviewed Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2012-0149.

## **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Proposed AD Requirements**

This proposed AD would require repetitive external phased-array ultrasonic inspections to detect cracks of the affected fuselage skin lap splices in Sections 41, 43, and 44, as applicable, and repair if necessary.

## **Difference Between the Proposed AD and the Service Information**

Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011, specifies that one way to install a repair is to use "other approved methods." However, this proposed AD requires that the repair be done using a method approved in accordance with the procedures specified in paragraph (i) of this proposed AD.

## **Costs of Compliance**

We estimate that this proposed AD affects 46 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspections for Group 1 airplanes (25 airplanes)	126 work-hours X \$85 per hour = \$10,710 per inspection cycle	\$0	\$10,710 per inspection cycle	\$267,750 per inspection cycle
Inspections for Group 2 airplanes (21 airplanes)	50 work-hours X \$85 per hour = \$4,250 per inspection cycle	\$0	\$4,250 per inspection cycle	\$89,250 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for the on-condition repair.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2012-0149; Directorate Identifier 2011-NM-255-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 777-200 and -300 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 53, Fuselage.

**(e) Unsafe Condition**

This AD was prompted by reports of fatigue cracks in the lap joints, which initiated at scribe lines that were made during production when maskant was removed from the affected skin panels. We are issuing this AD to detect and correct such fatigue cracking, which, if not detected and corrected, could grow large and cause sudden decompression and the inability to sustain limit flight and pressure loads.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Inspections and Repair**

Except as provided by paragraph (h)(1) of this AD, at the applicable time identified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011: Do external phased-array ultrasonic inspections to detect cracks of the affected fuselage skin lap splices in Sections 41, 43, and 44, as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011. If any crack is found, before further flight, repair in accordance with Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011; except as required by paragraph (h)(2) of this AD. Repeat the inspections of unrepairs areas thereafter at intervals not to exceed 4,200 flight cycles.

**(h) Exception to Service Information**

(1) Where Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011, specifies a compliance time “after the original issue date on this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 777-53A0043, dated November 9, 2011, specifies that “other approved methods” can be used to install a repair, this AD requires that the repair be done using a method approved in accordance with the procedures specified in paragraph (i) of this AD.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to: [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).]

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

**(j) Related Information**

(1) For more information about this AD, contact James Sutherland, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6533; fax: 425-917-6590; e-mail: [James.Sutherland@faa.gov](mailto:James.Sutherland@faa.gov).



(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>. You may also review the referenced service information in the docket at [www.regulations.gov](http://www.regulations.gov) (refer to Docket No. FAA-2012-0149). You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on February 10, 2012.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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